Attorney's Docket No. 1034469-000035

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	
	)	
Elizabeth A. Colbert	)	Group Art Unit: 1794
	)	
Application No.: 10/625,624	)	Examiner: Ula Corinna Ruddock
	)	
Filed: July 24, 2003	)	Appeal No.: _____
	)	
For: COATED GYPSUM BOARD PRODUCTS AND METHOD OF MANUFACTURE	)	

APPEAL BRIEF

Mail Stop APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal is from the decision of the Primary Examiner dated July 28, 2008 finally rejecting claims 1-19 and 32-39 which are reproduced as the Claims Appendix of this Brief.

☐ A check covering the ☐ $ 270 ☐ $ 540 Government fee is filed herewith.

☒ Charge ☐ $ 270 ☒ $ 540 to Credit Card. Form PTO-2038 is attached.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800.

I. Real Party in Interest

The real party in interest for this appeal in the present application is Lafarge Platres, by way of assignment recorded in the U.S. Patent and Trademark Office at reel 014817, frame 0627.

II. Related Appeals and Interferences

To the best of Appellant's knowledge, there are no other appeals, interferences or judicial proceedings which will directly affect or be directly affected by, or have a bearing on, the Board's decision in this appeal.

III. Status of Claims

Claims 1-19 and 32-39 are pending and appealed in this application. Claims 1-19 and 32-39 were finally rejected in the July 28, 2008 final rejection. Claims 20-31 have been cancelled.

IV. Status of Amendments

No amendment was filed subsequent to the final Office Action.

V. Summary of Claimed Subject Matter

Appellant's independent claim 1 is directed to a gypsum board (Fig. 1, element 100, paragraph [0044] of Appellant's published specification); the gypsum board is precoated during manufacture with a coating (Fig. 1, element 120, paragraphs [0048]-[0049]); a gypsum core has a first side and second side (Fig. 1, element 105, paragraph [0044]); a facing sheet is disposed on the first side (Fig. 1, element 115, paragraph [0044]); the coating is disposed on an entirety of the facing sheet (Fig. 1, paragraph [0046]); at least a portion of the coating penetrates through at least a portion of the facing sheet and into the gypsum core (Fig. 1, reference d, paragraph [0047]).

Appellant's independent claim 13 is directed to a gypsum board (Fig. 1, element 100, paragraph [0044]) precoated during manufacture with a coating (Fig. 1, element 120, paragraphs [0048]-[0049]); a gypsum core has a first side and a second side (Fig. 1, element 105, paragraph [0044]); and a facing sheet disposed on the first side (Fig. 1, element 115, paragraph [0044]); the coating is disposed on an entirety of the facing sheet (Fig. 1, paragraph [0046]); the facing sheet has a level 5

finish after manufacture and prior to applying the gypsum board in an intended application (paragraphs [0078]-[0079]).

Appellant's independent claim 15 is directed to a gypsum board (Fig. 1, element 100, paragraph [0044]; precoated during manufacture with a coating (Fig. 1, element 120, paragraphs [0048]-[0049]); a gypsum core has a first side and a second side (Fig. 1, element 105, paragraph [0044]); a facing sheet is disposed on the first side (Fig. 1, element 115, paragraph [0044]); the coating is disposed on an entirety of the facing sheet (Fig. 1, element 115, paragraph [0046]); the facing sheet has a level 4 finish after manufacture and prior to applying the gypsum board in an intended application (paragraphs [0078]-[0079]).

Appellant's independent claim 16 is directed to a kit comprising a quantity of joint compound (paragraph [0080]) and a plurality of gypsum boards (Fig. 1, element 100, paragraph [0048]) precoated during manufacture with a coating applied thereon (Fig. 1, element 120, paragraphs [0048]-[0049]); each of the gypsum boards comprise a gypsum core having a first side and a second side (Fig. 1, element 105, paragraphs [0044]-[0049]); a facing sheet disposed on the first side (Fig. 1, element 115, paragraphs [0044]-[0048]); the coating is disposed on an entirety of the facing sheet (Fig. 1, element 120, paragraph [0046]); the coating is a diluted form of the joint compound (Fig. 1, element 120, paragraph [0080]).

VI. Grounds of Rejection to be Reviewed on Appeal

The ground of rejection to be reviewed on appeal is whether claims 1-19 and 32-39 are unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 4,287,103 to *Francis* in view of U.S. Patent No. 6,105,325 to *Zuber*.

VII. Argument

Claim 1:

Independent claim 1 is directed to a gypsum board *precoated during manufacture* with a coating. The gypsum board comprises a gypsum core having a first side and a second side and a facing sheet disposed on the first side. A coating

is disposed on an entirety of the facing sheet. At least a portion of the coating penetrates through at least a portion of the facing sheet and into the gypsum board.

As stated in the specification of the present application, the depth of penetration of the coating can be influenced by the relative moisture level and/or degree of set of the gypsum board. See paragraph [0047] of the published application US 2004/0154264 A1. Accordingly, the language in claim 1 that the gypsum board is precoated during manufacture relates to the provision in claim 1 that "at least a portion of the coating penetrates through at least a portion of the facing sheet and into the gypsum core."

Francis Does Not Teach An Entirety Of A Paper Facing Coated With A Joint Composition:

On line 4 of paragraph 3 (page 2) of the rejection, the Examiner states that *Francis* discloses a wallboard, wherein the paper facing is coated with a joint composition. That comment ignores the fact that claim 1 recites that the coating is disposed on an ***entirety*** of the facing surface. It is true that *Francis* teaches applying a coating on a ***very small*** portion of the board, i.e., the valleys adjacent the board joints and over nail heads. Column 1, lines 25 - 51. Accordingly, the Examiner appears to be relying on *Francis* to disclose the claim language that the coating is disposed on an ***entirety*** of the facing surface, yet *Francis* does not teach this.

***Zuber's* Joint-Pointing Coat Is Not Equivalent With The Pigment Layer:**

The Examiner recognizes that *Francis* does not disclose that the gypsum board is precoated with a coating during manufacture, and that the coating penetrates through at least a portion of the facing sheet and into the gypsum core. Appellant respectfully disagrees with the Examiner's assertion that *Zuber* overcomes the deficiencies of *Francis*.

Zuber is directed to the construction of interior works wherein the structure and/or composition of a sheet lining paper and the composition of a joint pointing coat are coordinated with one another in the finishing of a joint. The Examiner

argues that *Zuber* discloses assembling a plasterboard with at least a joint coat, and that this can be equated to precoating a gypsum board during manufacture. However, the Examiner has misunderstood the teachings of *Zuber*. The joint-pointing coat in *Zuber* is applied only over the joints after assembly of the walls. (...there is a sealing coat intended for forming essentially the joints between the various flat elements, with the joint-pointing coat being a finishing coat which can be applied to the sealing coat." column 2, lines 42 - 45)

In addition, the joint-pointing coat in *Zuber* does not cover the entirety of the facing sheet. Instead, *Zuber* teaches that a pigment layer is covering the entirety of the facing sheet, not the joint-pointing coat. Column 3, lines 58 - 67.

Zuber's Joint Coat Is Not Equivalent To Precoating The Board During Manufacture:

Since the Zuber joint-pointing coat is applied after assembly of the walls, it cannot in any way be equated to the claim language that the board is precoated during manufacture. As discussed at the paragraph beginning at line 18 of column 3, *Zuber* uses prefabricated elements, plasterboards typically composed of a factory cast plaster body between two sheets of paper forming both its lining and its reinforcement. In *Zuber*, the joint-pointing coat is applied only when the already manufactured plasterboards are assembled. See *Zuber* at column 4, lines 55-67. In *Zuber*, the joint-pointing coat can be used as a finishing coat which is applied on a sealing coat used to form the joints between flat elements. The general way of applying the joint-pointing coat in *Zuber* is similar to the way of applying joint composition in *Francis*. Because the Examiner recognizes that *Francis* does not disclose precoating a gypsum board during manufacture, it is difficult to see how *Zuber* overcomes this deficiency. Thus, Appellant's independent claims 1, 13, 15 and 16 are distinguishable over *Francis* and *Zuber*.

Neither Reference Teaches A Coating Penetrating Into Gypsum Core:

In *Zuber*, the joint-pointing coat is applied after the wall is assembled. And, there is no specific teaching as to when or how the pigment layer is applied to the upper web. For example, the pigment layer could be applied to the upper web before the upper web is even formed into the gypsum board. Thus, there is no teaching or suggestion that the pigment layer or the joint-pointing coat penetrates into the gypsum core.

Francis teaches only the application of a joint composition in certain regions of the board. In general, *Francis* teaches that the remainder of the facing is not coated at all. See "dry paper cover" at column 2, lines 27 - 33.

The Examiner asserts that it would have been obvious to one having ordinary skill in the art to have the joint composition of *Francis* and *Zuber* penetrate through the paper into the gypsum core as recited in Appellant's independent claim 1, and further that because the same materials are being used as the facing sheet and coating, the coating would penetrate therethrough. This assertion is respectfully traversed.

In claim 1, the product results from a combination of the materials used and the methods by which they are assembled. For example, one method of enabling the coating to penetrate into the gypsum core is to apply the coating when the gypsum core is wet. See paragraphs [0047]-[0049] of Appellant's published specification. The depth of penetration of the coating into the gypsum core is influenced by the relative moisture level and/or degree of set of the gypsum board. *Francis* teaches a specific viscosity of the joint compound (350 to about 750 Brabender units at 70F, column 6, lines 55 - 65), which may be good for applying a joint compound, but is more than likely too thick to be used as a skim coat intended to precoat the board on-line, let alone to penetrate into the surface of the facing. A similar argument can be made for *Zuber* where a joint pointing coat is used to finish a joint to obtain a uniform outer surface. There is no disclosure in *Zuber* of a coating penetrating a gypsum core

In the present case, differences between the claimed features and the applied prior art can be determined from the information provided in *Francis*, *Zuber* and the specification of the present application. A diluted form of joint compound applied to a wet board is going to result in a different structure and appearance than regular joint

compound applied to a dry board. Also, a precoated board, i.e., a board which is coated on-line during manufacture and therefore when horizontal, will show uniformity in terms of coating thickness that cannot be achieved when a compound is trowelled on an already erected wall.

For example, better adhesion of the facing sheet to the gypsum board and increased board strength, as measured by nail pull, result from the methods taught in the published application. See, in particular, paragraphs [0065] to [0067] of the present application. The coating improves nail pull values by up to 25%. This allows for the use of facing sheets of lower weight or quality, with attendant cost reductions. These improved properties may not be attained by coating the boards in an already erected wall and in fact by only filling the shallow valley formed by the edges. These improved properties may only be attained by coating one side of the boards during the manufacturing process, which is reflected in the wording of claim 1 (which is about a *precoated* board).

As a result of the precoating process, *the entire surface* is coated and a portion of the coating penetrates into the gypsum core. As is explained in the present specification, the depth of penetration of the coating is influenced by the relative moisture level and/or degree of set. And, if the moisture content is low, the coating may only penetrate into the paper facing sheet, i.e., and not into the core. See paragraph [0047] of the published application. Although the present invention is not limited to the preferred disclosed embodiments, one way of having the coating penetrate into the paper is to have the coating applied on a relatively wet board.

In contrast to the present application, *Francis* teaches only providing the joint compound in the valleys at the edge of the boards. *Zuber* teaches applying the joint-pointing composition on a sealing coat intended for forming the joints between the flat elements. *Francis* and *Zuber* do not teach putting the coating over the entirety of the facing sheet. In addition, *Francis* and *Zuber* neither mention nor suggest that the coating penetrates into the core. Furthermore, *Francis* and *Zuber* teach applying the coating to an assembled board that is presumably well set and dry. Accordingly, whether or not the same materials are used, as alleged by the Examiner, *Francis* and *Zuber* do not teach that the coating penetrates into the core. In fact, according to paragraph [0047] of the present application, it is likely that the coatings of *Francis*

and *Zuber* do not penetrate into the core. For example, when the gypsum is in a more advanced state of set, the penetration of the coating is reduced. Accordingly, contrary to the assertions of the Examiner, there is no teaching or suggestion of the *Francis* and *Zuber* coatings penetrating into the core.

Accordingly, the rejection of claim 1 should be reversed.

Claim 13:

Independent claim 13 is directed to a gypsum board *precoated during manufacture* with a coating. The gypsum board comprises a gypsum core having a first side and a second side and a facing sheet disposed on the first side. A coating is disposed on an entirety of the facing sheet such that the facing sheet has a level 5 finish after manufacture and prior to applying the gypsum board in an intended application.

A level 5 finish is defined in the specification at paragraph [0075]. The specification furthermore teaches certain combinations of materials that form the coating, various ways of applying the coating, such as on a wet board, and forming a skim coat with the coating. None of those features are taught or even suggested by *Francis* or *Zuber.* Accordingly, it is not sufficient to say that *Francis* or *Zuber* may use the same materials. Even if the materials were the same, *Francis* and *Zuber* do not teach the way of applying them that is taught in the present specification in order to arrive at the claimed product that includes a level 5 finish, especially that the boards of claim 13 are precoated boards which allows the achievement of a level 5 finish. However, the present invention is not limited to the specific embodiments disclosed in the specification.

Accordingly, the rejection of claim 13 should be reversed.

Claim 15:

Independent claim 15 is directed to a gypsum board *precoated during manufacture* with a coating. The gypsum board comprises a gypsum core having a first side and a second side and a facing sheet disposed on the first side. A coating is disposed on an entirety of the facing sheet such that the facing sheet has a level 4

finish after manufacture and prior to applying the gypsum board in an intended application.

A level 4 finish is defined in the specification at paragraphs [0076]-[0077]. The specification furthermore teaches certain combinations of materials that form the coating, various ways of applying the coating, such as on a wet board, and forming a skim coat with the coating. None of those features are taught or even suggested by *Francis* or *Zuber*. Accordingly, it is not sufficient to say that *Francis* or *Zuber* may use the same materials. Even if the materials were the same, *Francis* and *Zuber* do not teach the way of applying them that is taught in the present specification in order to arrive at the claimed product that includes a level 4 finish; especially that the board of the invention are precoated boards which allows the achievement of a level 4 finish. However, the present invention is not limited to the specific embodiments disclosed in the specification.

Accordingly, the rejection of claim 15 should be reversed.

Claim 16:

Claim 16 recites that a kit includes a quantity of joint compound and a plurality of gypsum boards precoated during manufacture with a coating thereon, and that the coating is a diluted form of the joint compound. In contrast to claim 16, *Francis* and *Zuber* do not teach a board recoated during manufacture with a coating that is a diluted form of the joint compound.

Accordingly, 16 is also patentable over *Francis* and *Zuber*, and the rejection thereof should be reversed.

Claims 33 - 35:

Each of dependent claims 33 - 35 recites that the precoating is applied before the gypsum board is passed through a drying oven. As stated in the specification of the present application, the depth of penetration of the coating can be influenced by the relative moisture level and/or degree of set of the gypsum board. See paragraph [0047] of the published application US 2004/0154264 A1. Accordingly, the language in the claims that the precoating is applied before the gypsum board is passed through a drying oven is structurally significant.

VIII. Conclusion

In view of the above remarks, Appellant respectfully requests the rejections of the Office Action dated July 28, 2008 be reversed.

IX. Claims Appendix

See attached Claims Appendix for a copy of the claims involved in the appeal.

X. Evidence Appendix

None.

XI. Related Proceedings Appendix

None.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date April 6, 2009

By: _____
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VIII. CLAIMS APPENDIX

The Appealed Claims

1. A gypsum board precoated during manufacture with a coating, the gypsum board comprising:

a gypsum core having a first side and a second side and a facing sheet disposed on the first side; and

the coating disposed on an entirety of the facing sheet,

wherein at least a portion of the coating penetrates through at least a portion of the facing sheet and into the gypsum core.

2. The gypsum board of claim 1, wherein the coating penetrates into the gypsum core to a substantially uniform depth across an area of the gypsum board.

3. The gypsum board of claim 1, wherein a thickness of the coating is up to 30 mils.

4. The gypsum board of claim 3, wherein the thickness of the coating is preferably 3-20 mils.

5. The gypsum board of claim 1, wherein the coating is a joint compound.

6. The gypsum board of claim 1, wherein the coating comprises:

25-75 wt.% water;

30-70 wt.% calcium carbonate;

0-30 wt.% filler;

2-10 wt.% latex emulsion; and

0-10 wt.% additives.

7. The gypsum board of claim 6, wherein the filler comprises one or more of mica, talc, clay, and limestone.

8. The gypsum board of claim 6, wherein the composition further comprises a pigment in an amount sufficient to provide a desired tint to the coating.

9. The gypsum board of claim 1, wherein the coating comprises:

10-60 vol.% water;

50-90 vol.% calcined gypsum;

0.1-10 vol.% binder;

0-50 vol.% limestone;

0-10 vol.% clay;

0-30 vol.% other fillers; and

0-10 vol% additives.

10. The gypsum board of claim 9, wherein the composition further comprises a pigment in an amount sufficient to provide a desired tint to the coating.

11. The gypsum board of claim 9, wherein the facing sheet is made from unbleached grey paper and the coating is comprised primarily of calcium carbonate or gypsum.

12. The gypsum board of claim 9, wherein the facing sheet of the completed board has a level 5 finish, as defined herein.

13. A gypsum board precoated during manufacture with a coating, the gypsum board comprising:

a gypsum core having a first side and a second side and a facing sheet disposed on the first side; and

the coating disposed on an entirety of the facing sheet such that the facing sheet has a level 5 finish after manufacture and prior to applying the gypsum board in an intended application.

14. The gypsum board of claim 13, wherein the coating is primarily calcium carbonate or gypsum.

15. A gypsum board precoated during manufacture with a coating, the gypsum board comprising:

a gypsum core having a first side and a second side and a facing sheet disposed on the first side; and

the coating disposed on an entirety of the facing sheet such that the facing sheet has a level 4 finish after manufacture and prior to applying the gypsum board in an intended application.

16. A kit comprising a quantity of joint compound and a plurality of gypsum boards precoated during manufacture with a coating applied thereon, each of the gypsum boards comprising:

a gypsum core having a first side and a second side and a facing sheet disposed on the first side; and

the coating disposed on an entirety of the facing sheet; and

the coating is a diluted form of the joint compound.

17. The kit of claim 16, wherein the coating is primarily calcium carbonate or gypsum.

18. The kit of claim 16, wherein the coating is such that the facing sheet has a level 5 finish after manufacture and prior to applying the gypsum board in an intended application.

19. The kit of claim 18, wherein the coating is primarily calcium carbonate or gypsum.

20. - 31. (Canceled)

32. The gypsum board of claim 1, wherein the precoating is applied before the gypsum board is passed through a drying oven.

33. The gypsum board of claim 13, wherein the precoating is applied before the gypsum board is passed through a drying oven.

34. The gypsum board of claim 15, wherein the precoating is applied before the gypsum board is passed through a drying oven.

35. The kit according to claim 16, wherein the precoating is applied before the plurality of gypsum boards have passed through a drying oven.

36. The gypsum board of claim 12, wherein the precoating is applied after the gypsum board has passed through a drying oven.

37. The gypsum board of claim 13, wherein the precoating is applied after the gypsum board has passed through a drying oven.

38. The gypsum board of claim 15, wherein the precoating is applied after the gypsum board has passed through a drying oven.

39. The kit according to claim 16, wherein the precoating is applied after the plurality of gypsum boards have passed through a drying oven

IX. EVIDENCE APPENDIX

NONE

X. RELATED PROCEEDINGS APPENDIX

NONE